

ABSTRACT

FEED INJECTION SYSTEM FOR CATALYTIC CRACKING PROCESS

A fluid catalytic cracking unit includes a nozzle located in the bottom of a riser reactor. A first conduit provides a passageway for enabling a dispersing gas to flow therethrough and through an outlet passageway in a cap covering the end of the conduit. The outlet passageway discharges the dispersing gas into a liquid hydrocarbon feed material flowing through a second conduit spaced from and enclosing the first conduit to form an annulus therebetween, thereby providing a passageway for enabling the liquid hydrocarbon feed material to flow. A second cap covers the end of the second conduit and is spaced from the first cap thereby forming a mixing zone therebetween for mixing the liquid hydrocarbon feed and the dispersing gas. The second cap includes a continuous circular slot as an outlet passageway of the first cap and is adapted for discharging the mixture of liquid hydrocarbon feed and the dispersing gas. Hot regenerated catalyst enters the riser bottom region through a regenerator standpipe.